

DOCUMENT RESUME

ED 254 421

SE 045 440

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TITLE: Environmental Education and Training in and for Developing Countries. Arbeitpapier (Working Paper) 9.
INSTITUTION: Dortmund Univ. (West Germany). Inst. for Spatial Planning.
PUB DATE: Jun 83
NOTE: 32p.; Summary of a study carried out on behalf of the EEC/Brussels Directorate General for Development. Bibliography contains small print.
PUB TYPE: Reports - Research/Technical (143)
EDRS PRICE: MF01/PC02 Plus Postage.
DESCRIPTORS: College Programs; *Developing Nations; *Educational Objectives; *Environmental Education; Graduate Study; Labor Needs; *Policy Formation; Postsecondary Education; *Professional Training; *Program Improvement; Training; Training Objectives
IDENTIFIERS: Environmental Education Research

ABSTRACT

This report summarizes the findings of a study which determined the state of the art of graduate and post-graduate environmental education (EE) and training programs for professionals in and for Third World countries (focusing on the activities and policies of United Nations development organizations, bilateral activities and policies of western aid agencies engaged in EE education and training in developing countries, and the activities and policies of international development banks). The study also examined the institutions in the member countries of the European Commission (and selected other countries) offering advanced training and education for professionals in this field, indicating existing education/training programs and discussing target groups, manpower requirements, goals of EE and training, and other areas. Various policy recommendations for the Committee of International Development Institutions on the Environment (CIDIE) membership concerning future policies of EE and training for environmentally sound development planning in developing countries are included. Two of the high priority recommendations are the dissemination of environmental information to high level politicians and policy advisors from developing countries and the establishment of a fund for model education and training programs. A nine-page bibliography concludes the report. (JN)

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ED254421

Arbeitspapier (Working Paper)

9

Klaus R. Kunzmann / K. Taylan Dericioglu:
ENVIRONMENTAL EDUCATION AND TRAINING
IN AND FOR DEVELOPING COUNTRIES

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ENVIRONMENTAL EDUCATION AND TRAINING
IN AND FOR DEVELOPING COUNTRIES

Summary of a study carried out
on behalf of the EEC/Brussels
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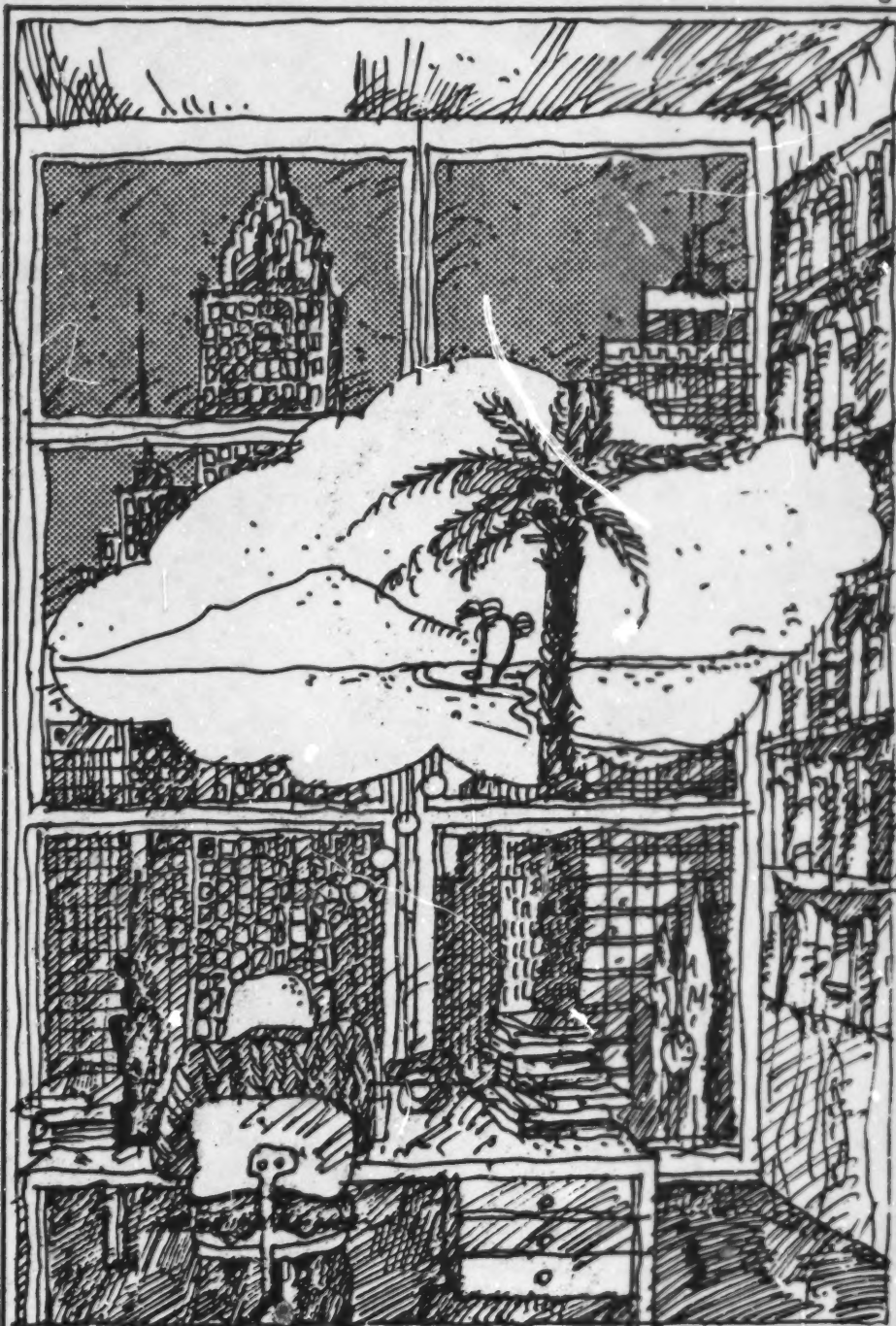
June 1983

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Somewhere in
the Northern Hemisphere ...

"... we should do our utmost
to conserve the natural environment in
Third World countries, to ensure
that the people do not suffer from the
adverse environmental consequences
of rapid intensive urbanisation ..."

1. Background

In 1980 the Committee of International Development Institutions on the Environment (CIDIE) signed a 'Declaration of Environmental Policies and Procedures Relating to Economic Development'. This declaration re-affirmed their support for the principles and recommendations for action of the United Nations Conference on the Environment and stressed the need 'to protect, rehabilitate, manage or enhance the human environment, the quality of life and resources thereto related'.

The provision of training in environmental matters to professionals in developing countries and support for 'the training and informing of operational staff in the environmental dimensions of economic development', together with the preparation, publication and dissemination of 'documentation and audio-visual material providing guidance on the environmental dimension of economic development activities' are considered to be essential elements of future economic development activities in and for Third World countries.

The CIDIE declaration, and the need for operationally useful information were two reasons for the European Commission initiating a study on 'Environmental Education and Training for and in Developing Countries'.

The main purposes of this study are:

- to collect information on the 'state of the art' of environmental education and training for professionals in and for Third World countries;
- to compile an inventory of institutions in the member countries of the European Commission, and selected other countries, offering advanced training and education for professionals in this field; and
- to develop policy recommendations for CIDIE membership concerning future policies of environmental education and training for environmentally sound development planning in developing countries.

In order to avoid misunderstanding and misinterpretation, problems of definition which arose during the course of this study require clarification:

- environment, is deliberated in a rather broad sense as 'the surroundings of man' including the physical dimension, incorporating natural and built environments and the socio-cultural dimension, involving man-to-man interaction;
- education, constitutes all types of basic education which establish the foundation for the future profession, from pre-school education, through formal school education to university education and all types of adult education;
- training, is the accomplishment of special qualifications for practical professional performance;
- development, is understood as a process in which the transformation of social and economic structures takes place for the satisfaction of human needs.

The exploration of the subject and the collection of information have been limited to:

- environmental education and training programmes for professionals carried out at the graduate or post-graduate level with special reference to developing countries;
- institutions in countries of the European Community, North America, of a few European countries which are of specific interest to CIDIE membership and in selected Third World countries;
- courses emphasizing environmental planning and management of an integrated, comprehensive character covering more than just one narrow sectoral field of environmental sciences.

2. Environmental education and training in and for developing countries: a status report

Since the Stockholm Conference in 1972, environmental problems of developing countries have found increased world wide attention and have led to a multitude of efforts, programmes and actions to introduce environmental education and training at all levels. Environmental training and education as a topic is therefore not new, but has found attention in many international institutions, primarily UNESCO and UNEP, and among the academic and scientific world.

Such efforts reached a summit at the UNESCO-sponsored Tbilisi Conference in 1976, giving rise to the formulation of general recommendations, which in their substance are still valid. These recommendations could be considered as a general basis for all future orientated efforts and action programmes of environmental education and training in and for developing countries. (The full text of the recommendations is given in the appendix.)

The number of written documents in this subject, referring to these recommendations or arising from this conference is impressive. Efforts to trace the impacts of these endeavours reveal that throughout the world the necessity of environmental education and training is no longer questioned and is principally accepted as an indispensable precondition for future environmentally sound development in Third World countries.

Resulting from environmental conflicts in the First and Second Worlds there is a magnitude of substantive and didactic material for environmental education. Much of it has found its way into formal and informal education programmes and some of the experiences have been disseminated to developing countries. In many countries a multitude of first achievements can be reported demonstrating both the success and the need for supported efforts to introduce environmental subjects into education programmes.

Nevertheless, in developing countries there is still a considerable imbalance between verbal or written statements and/or policy declarations and real substantive achievements. This can probably best be attributed to a lack of financial resources deriving from political priorities to immediately satisfy short-term economic needs rather than pursuing longterm strategies to meet the needs of the society.

2.1 Activities and policies of international development banks

Investigations on multilateral and bilateral policies reveal that development agencies undertake their environmental education and training related activities in varying forms of organisation, content and magnitude and for a wide range of target groups at different levels of specialisation.

Among the international development banks the World Bank has endeavoured, with some success, to incorporate environmental training into individual projects. It offers substantive programmes on environmental issues in developing countries.

Its Office of Environmental Affairs (OEA) and the Education Department enable the World Bank to provide a policy of support and finance for environmental education and training whenever required. A specific environmental training programme is offered by the Economic Development Institute (EDI). The Bank also supports a variety of sectoral training programmes which are of an environmental nature and emphasise natural resource planning and management. These courses are performed in Washington, D.C., and throughout the world in association with regional and national development agencies and training institutions. The participants of these seminars are selected primarily from senior government officials of developing member countries, who are employed in central banks, development finance institutions, government ministries and, planning and development agencies.

The World Bank desires to reach a large audience by training trainers and assisting in the preparation of training and teaching materials. In collaboration with other institutions, the Bank hopes to provide the staff and officials of developing countries with an expanded education and training programme aimed at enhancing their environmental sensitivity.

The environmental training activities of the regional banks so far have been rather limited. Rarely have they reached beyond the dissemination of general knowledge for incorporating environmental factors into development projects. The Inter-American Development Bank promotes the training of officials only upon the request of the member countries. The Asian Development Bank carries out in-house seminars for its project staff and is contemplating the organisation of a regional training seminar for officials from environment and development agencies in its member developing countries.

2.2 Activities and policies of United Nations development organisations

All United Nations development organisations support environmental education and training activities for a wide range of target groups. Among them UNESCO and UNEP are the most active and most experienced bodies. UNESCO's prime interest is to support basic environmental education and research activities, while that of UNEP is to enhance the training opportunities of professionals.

Enhancing formal environmental education opportunities is one of the cornerstones of UNESCO's overall development assistance

strategy. Thus, UNESCO has been instrumental in providing support and curricula assistance to countries seeking to incorporate environmental education into the primary and secondary levels and, to develop more sophisticated environmental education programmes at institutions of higher learning.

In 1968 the organisation began a long-term programme on 'Man and the Biosphere' (MAB), to supplement a social science programme on 'Man and His Environment - Design for Living'. The broad aim of MAB is to develop the scientific basis for the rational use and conservation of the biosphere and, for the improvement of the global relationship between man and his environment.

Under UNESCO's MAB project, scientists from many countries are participating in approximately 900 research projects aimed at expanding practical research in countries of the tropical zones. Some MAB projects have a training component and seek to involve local populations in efforts to apply the results of the research. An international network of research and training has evolved around the MAB programme, facilitating the exchange of personnel and associations between the research institutes of developed and developing countries.

UNESCO has also initiated activities for the international promotion of environmental information and education as result of the International Conference on Environmental Education, which was organised in co-operation with UNEP, in Tbilisi 1977. Prior to this conference UNESCO and UNEP jointly launched the International Programme for Environmental Education which began in January 1975.

Most education and training activities fall within the framework of the UNEP/UNESCO International Environmental Education Programme. Activities undertaken by UNEP/UNESCO collaboration include; the introduction of environmental law into the curricula of universities, pilot projects on environmental engineering education in the Philippines and Venezuela, an international programme on environmental education and the training of engineers, together with the development of similar programmes for human settlement managers, ecologists, architects, town planners, managers and economists.

To augment the exchange of information and curricula ideas on environmental education, UNESCO and UNEP publish a joint news letter, Connect. Both of these organisations also supply funds for Third World students studying post-graduate courses abroad.

UNEP promotes the contribution of the relevant international scientific and other professional communities to the acquisition, assessment and exchange of environmental knowledge and information and, initiates the formulation and implementation of environmental programmes.

UNEP is engaged in a large number of public education projects to promote the environmental awareness of the public.

UNEP's partners in the field of environmental education include such organisations as: EEC, ECLA, ESCAP, FAO, IPEA, ILO, IMCO, UNICEF, WHO, ICSI, SCOPE, ALESCO, SEPA, IUCN,

OECD, and IBRD. These partnerships undertake programmes which involve manpower development, fellowship programmes, research projects, curricula development, an exchange of knowledge and experience, symposia, seminars, panels on specific issues building up international scientific and technical infrastructure, the development of an education methodology for various social and professional groups, preparing education manuals and audio-visual aids, to mention but a few.

During the last decade, the WHO has undertaken approximately fifty projects relating to manpower development and training in environmental health. These include manpower planning, institution building seminars, workshops, fellowships for academic study, short courses and study visits. The Environmental Technology Support Unit (ETS), of the Environmental Health Division within the Organisation, has responsibility for human resource development in the area of environmental health and sanitary engineering and, carries out short-term consultancies to member countries.

WHO regards the lack of adequate training personnel as a major constraint to its programmes in developing countries, thus short-term group training is a major priority. It is conducting a series of regional and inter-regional courses on environmental monitoring and other aspects of pollution control.

WHO is convening an Inter-Agency Task Force on human resources development for the Steering Committee of the International Drinking Water Supply and Sanitation Decade. Activities in this field comprise the training of sanitarians, water/sewerage operators, laboratory technicians, sanitary engineers, collaboration in curricula development, sanitary engineering research, field demonstrators and the exchange of scientific workers.

Supplementary sectoral environmental education and training efforts are also made by FAO, ILO, UNCHS and UNICEF; but these are often quantitatively insufficient to meet the real needs of professionals in developing countries.

2.3 Bilateral activities and policies

The verbal aim of bilateral policies of western aid agencies engaged in environmental education and training in developing countries is to render these countries self-sufficient in the expertise necessary to overcome environmental problems and conflicts. Unfortunately, most aid agencies even lack adequate environmental in-service training programmes for the house and field personnel who implement the development projects; thus hindering the transmission of project related training programmes to developing countries. This is probably the reason for many European countries lacking a specific institution or programmes concerned with environmental education and training for developing countries and fall short of procuring a self-sufficiency in environmental expertise to developing countries. Exceptions in Europe are Switzerland (NADEL), the Netherlands (IHE), and the German Democratic Republic (International Post-graduate Course in Ecological Approaches to Resources Development, Land Management and Environmental Impact Assessment in

Developing countries, organised by UNESCO and UNEP in co-operation with the Technical University of Dresden).

In contrast some of the activities of USAID in this respect are impressive. The programmes, organised and executed on a collaborative basis, offer education, research and training courses for selected target groups, working on specific environmental issues for developing countries. For example, EMTA (Environmental Training and Management in Africa) conducted by the South-East Consortium for International Development, Clark University, The University of North Carolina at Chapel Hill is sponsored by USAID.

3. Towards the improvement of environmental education and training in and for developing countries

The following key questions form the analytical basis for this study.

- What are and what should be the major target-groups for environmental education and training?
- What is the occupational context of professionals in developing countries?
- What are the goals and objectives of environmental education and training?
- Where does and should environmental education and training take place, and where is the best location for environmental education and training?
- Which programmes and courses are appropriate for environmental education and training in developing countries?
- Which actions should and could be taken to improve environmental education and training for and in developing countries?

The answers to these questions, detailed below, should form the operational basis for future policy action of CIDIE membership in the field of environmental education and training.

3.1 Occupational context

Environmental education and training can never be separated from the occupational context in which professionals work. The social, economic, political and administrative conditions determining the occupational context in developing countries differ considerably from those of the northern hemisphere, and therefore form a rather different occupational context, which must be taken into consideration when formulating and implementing environmental education and training policies.

Despite a fear in developing countries that a policy of environmental protection might hinder the development process and perpetuate their underdeveloped state an increasing significance is attached to evoking an environmental consciousness. Today there is at least a verbal recognition that environmental problems have a cumulative impact and that delay in remedial action

will result in considerably higher costs in the future. In many instances there is, however, a polarity between a general environmental conscience and individual economic thinking and behaviour. Consequently national policy considerations often lack the necessary knowledge of how to design, enforce and implement strategies which combat the negative impacts of industrial development, resource exploitation, extensive firewood cutting or inappropriate cash crop farming.

Environmental education and training cannot overrule economic thinking nor counteract short term power politics. It would be naive to think that environmental problems can be instantly solved at the grass root level, at the cost of the poorest population group. Even the environmentally conscious and sensitive administrator in a developing country would never jeopardise his career and family income by acting against the prevailing powerlines within an institution. Viewed from such a personal stance, it is apparent that many excellent recommendations for protecting the environment have little chance of implementation.

Given these facts:

- the performance of professionals working in Third World environments should be assessed against the conditions of the occupational context of that country and not evaluated against those working conditions in the northern hemisphere;
 - regulations and standards determining the occupational performance of professionals should be scrutinised as to their negative effects in the consideration or implementation of environmentally sound development planning;
 - the responsibility for introducing environmental education and training should not be left to the most obvious responsible national institutions (for example, Ministry of Education, Ministry of Agriculture) but assigned to all institutions whose activities may influence or alter environmental conditions in a country or region;
- and
- finally, administrators and experts working in development institutions should be given greater institutional freedom and encouragement to deviate from traditional paths when incorporating environmental education and training components into their daily assignments.

3.2 Target groups

Target groups of environmental education and training in developing countries principally range from primary school children and illiterate adults, through teachers and professionals in all fields, to policy makers and politicians responsible for formulating and implementing development policies. All of these groups constitute in one way or another target groups of environmental education and training programmes supported by governmental and non-governmental national and international institutions.

Certainly, all current efforts are quantitatively inadequate and require much more support than hitherto.

Whereas the principle of environmental education is widely accepted, the environmental training of professionals throughout the Third World has not yet found sufficient acceptance and support. Professional training in developing countries is still dependent on First and Second World instruction and reflects the conditions in those countries. In which traditional economic and engineering education and training similarly lack any environmental component.

The training of trainers for environmental training has until recently received little attention. Professionals at institutes of higher education in Third World countries, having been educated at First or Second World universities, have little teaching experience. Rarely are they taught in the didactic performance of training.

Given current environmental education activities and the limited availability of resources and absorption capacity, national and international target groups should be those groups which are the essential multipliers within both their countries and development institutions.

The four essential multiplier groups are:

- professionals, teaching as university professors, lecturers or trainers at universities and at governmental or non-governmental training centres;
the training of trainers is, in the long run, a key to the creation, and the strengthening of the necessary environmental conscience of the general public and the professions;
- economists and engineers being the key groups guaranteeing environmentally sound development planning in Third World countries;
- journalists assigned to the media of developing countries could play an important role as advocates for their human and natural environments; and
- administrators and professional experts in developing institutions initiating, executing, monitoring or evaluating development projects.

This implies that priority should be given to raising the environmental conscience and methodological knowledge of professionals involved in all aspects of development planning rather than training environmental generalists, who, in developing countries, lack an institutional base for their activities. This priority is especially valid for the group of least developed countries.

3.3 Manpower requirements

The manpower requirements and the related demand for environmental education and training is difficult to quantify. Experience in Europe has shown that the quantification of manpower requirements for new professions, for topics which are extremely dependent upon political goals and social acceptance, are impossible. Thus demand can only be stated very simply as, what a government or an institution is willing to afford and not what a society or objective conditions of the environment would require.

There are, however, some general hints which can be given:

- there is a lack of environmentally conscious engineers and economists within the development administrations at the national and regional level. Most professionals working in such institutions need additional environmental training;
- given the paucity of specialised in-service training programmes for professionals working in international and national development agencies, a doubling of existing training programmes would certainly not exceed the demand;
- apart from the agriculture sector, there is a considerable lack of qualified technical and administrative personnel at the lower and middle levels which is sufficiently educated and trained to execute and control environment related activities;
- given the trend for national decentralisation policies, there is evidently an increasing demand for the training of development officers at regional or sub-regional levels which will have a key role in environmentally sound development planning; it is advisable to include environmental components into their training programmes from the outset.

3.4 Existing education and training programmes

The survey undertaken in this project reveals that a wide range of environment related courses are offered by a number of organisations with differing degrees of sophistication and a varying conception of the environment. The programmes can be distinguished by their interdisciplinary/comprehensive and single-discipline/sectoral characters.

The education and training courses possessing a sense of inter-disciplinarity usually centre around spatial and environmental planning. These courses last for a minimum of one year and produce as a rule environmental generalists (York University, Ontario, Canada; MIT, Massachusetts, USA; University of Tennessee, USA; University of Liverpool and Aberdeen, United Kingdom). Such programmes are in preparation at the University of Nairobi/Kenya and the University of Dortmund, FR Germany. Comprehensive environmental education is mainly offered under, rural development planning, environmental health and resource management programmes. Whereas, training is available within valley development, river basin planning and in water management planning programmes. Such courses are offered at the University of Guelph, Ontario, Canada; NADEL, Zürich, Switzerland; University of Bradford, United Kingdom; IHE, Delft, Netherlands, and An Foras Forbartha, Dublin, Ireland.

Sectoral programmes aim to furnish target groups with a knowledge of environmental issues within their own field of specialisation. Highly specialised post qualification programmes are offered in this category. Examples of which include courses on environmental assessment methodologies, environmental monitoring, remote sensing, cost benefit analysis, data processing for environmental engineers and wildlife management. Such courses are offered at East-West Environment and Policy Institute, Honolulu, USA, and Geological Survey, Virginia, USA; ITC,

Enschede, Netherlands, and Andre Marsan Inc., Quebec, Canada.

This survey, based on approximately 135 questionnaires from the member countries of the EEC, from other European countries and North America, confirm that these programmes focus primarily on the needs of the developed world. Specific environmental education and training programmes for developing countries are of a subsidiary or secondary consideration.

Only a few of the European and North American programmes are aimed at the training of trainers, one such example being the University of Arizona, while no instance of journalists as a target group can be cited.

The ten per cent questionnaire response of developing countries is too low to form any concrete conclusions but, it would appear that their current environmental programmes are running without any external support.

Environmental education and training courses offered in developing countries are of a highly academic nature, lacking above all practice components. Usually they are of a comprehensive character, examining environmental issues in courses related to civil and environmental engineering (for example, those offered at Bandung, Indonesia; Dar-es-Salaam, Tanzania; Izmir, Turkey, and Mysore, India; or Manila, Philippines).

3.5 Appropriate locations

Most advanced environmental training and education activities take place at an increasing number of locations in the First and Second Worlds. The majority of courses are designed for the needs of the developed countries' professionals working within their own national context. The number of programmes explicitly or exclusively tailored to the needs of developing countries is rather limited. This can be attributed to a number of reasons, lack of appreciation and lack of experience, being only two. Political and economic goals of continuing historical trade links and dependencies are probably the main reasons for the continuous political and financial support of transferring students and professionals from Third World countries to training centres in the First and Second Worlds.

Environmental education and training in industrialised countries for professionals from developing countries is only acceptable if such programmes are tailored to meet their specific regional requirements.

Therefore national ministries in the northern hemisphere should be approached to improve the education of students from developing countries at national universities and to assign more experienced and qualified trainers for such specific tasks. Concentration in regional centres of specialised training would be much more appropriate than dispersing future efforts around all institutions of higher education in a country.

Priority however should be given to supporting environmental education and training located in developing countries, where professionals have the immediate experience of the appropriate

operational context and where instruction can be given in the working language. This could contribute to relieving the 'brain drain', reduce the danger of transferring inappropriate values and instruments and re-inforce the education and research potential of developing countries.

Therefore support should be given to both existing or potential education and training institutions in developing countries. An attempt should be made to overcome the present deficiencies and constraints of existing institutions in an endeavour to accord them a better political and scientific standing. One possible action is to sponsor joint programmes between education and training institutions in both developing and developed countries by means of long-term political and financial commitments. With the assistance of international advisory boards the quality of their performance should be continuously assessed.

Any institutional support should primarily be directed to regional training centres, where students and professionals from a number of developing countries in the region can be brought together.

3.6 Education and training goals

Goals of environmental education and training are as numerous and vague as is the whole perception of 'environment' or 'environmentally sound development'. Goals, objectives and programme targets of existing courses differ in their complexity, practice orientation and socio-political relevance. They reach from general sensitisation for environmental matters to the transfer of environmental impact assessment methodology or of garbage disposal management techniques.

The UNEP objectives of environmental education are:

- to effect a rapid and systematic development of environmental education on a global basis;
- to develop and support education programmes to ensure environmental awareness at policy decision-making levels;
- to provide the education necessary for all countries to participate in the environmental programme as equal partners;
- to establish educational systems which help governments to include the environmental dimension into policies, programmes and projects;
- to stimulate the rapid development of non-formal education for urban and rural populations.

The objectives of UNEP in environmental training are:

- to introduce the environmental dimension into specific areas of national and regional development plans;
- to develop and support programmes for incorporating environmental aspects into the technical training of professional groups whose work affects the environment;
- to provide the specialised training for technicians and specialists involved in various tasks associated with environmental assessment and management;

- to stimulate the rapid development of environmentally orientated professional training programmes for teachers educational administrators, and others engaged in the task of promoting and developing environmental education;
- to create and maintain appropriate mechanisms for the effective co-ordination of environmental training programmes.

The prime concern of future education programmes must be to stimulate an awareness of the importance of the environmental component of development, while that of training programmes is to refine the incorporation of the environmental dimension into professional performance or to transmit new theories, methods or instruments.

Thereby it is essential to engender a positive attitude towards environmentally sound development in all disciplines, which are concerned with the development process and not to restrict environmental education and training to environmental specialists or generalists.

Given the varying socio-political conditions of the occupational context it is obvious that any environmental education and training should include the political and economic ramifications as an integral part of the pure scientific, methodological and theoretical contents of programmes and courses. Therefore, when formulating aims and contents of training programmes, personal dependencies and constraints of professionals operating in developing countries, must be taken into consideration.

It is also indispensable that environmental education and training emphasise active planning. This means that environmentally sound development must be anticipated. Reactive environmental protection must be regarded as only a 'second best' approach for the protection of the eco-system in the Third World. Similarly, this implies that environmental education and training must be orientated towards practicable feasibility. Otherwise such education and training will be useless for the active conservation of the ecosystem outside of academic circles.

3.7 Pertinent programmes

In the past, the increasing awareness of environmental problems in the First, Second, and Third Worlds has led to the establishment and design of numerous education and training activities all over the developed and developing worlds. Some of them are of a comprehensive nature, but the majority favour sectoral approaches to cope with selected negative impacts of development on natural and man-made environments.

Such programmes range from overall full-time higher education at university level, lasting from two to ten or more years in the case of a Ph.D. degree, to one or two day seminars for senior professionals or policy makers. The quality of programmes rests training centres. As persons dealing with Third World development problems have a rather high personal and locational mobility, this leads to continuous change of programmes and courses which often has detrimental effects on the quality and continuity of the programmes and courses.

Due to differing physical, social, economic, cultural, and polit-

ical conditions in developing countries, there are no universal substantive solutions for environmental education and training programmes. People's attitudes to and perceptions of the environment depend on their development status. Countries confronted with different environmental problems usually possess and require different instruments of control. Thus environmental education and training programmes must undoubtedly reflect regional environmental conditions.

This implies that environmental education and training in developing countries must be connected with environmental research. Only an extensive knowledge of the local or regional environment and of those decisive forces determining the transformation of the local and regional environment will allow the development of counteractive strategies for its protection and conservation.

The content of environmental programmes and courses should always reflect the particular regional environment and observe the absorptive capacity of the respective country or institution. The more complex and advanced the administrative system of a developing country the more sophisticated the training or education programme can be.

Training courses must be tailored to the specific needs of single target groups, for example development economists, teacher trainers, journalists, transport engineers or policy advisors. Careful programme preparation should result in a greater learning effect and subsequent multiplication. This should be the prime concern of future environmental education and training.

The availability of training packages for selective training objectives would certainly facilitate and accelerate the transfer of knowledge and capability. Experiences from professional management training centres should be adapted to the design of appropriate training courses in the environment sector.

Correct and up-to-date information on programmes and courses must be made more readily available to the potential trainees, in order to avoid wrong selection and resultant disappointment.

3.8 Recommendations

From the overall impression and experience gained in the elaboration of this study a number of recommendations for policy action can be given based on the general principles of environmental education and training detailed above.

The following priorities should guide all future considerations when initiating, supporting or performing environmental education and training in and for developing countries. Priority action should be given to:

- environmental training of professional and administrative staff of medium and high levels as opposed to the education and training of scientists; consequently the development of training packages for professional target groups should be given precedence over the elaboration of such packages for general environmental education;
- the education and training of professionals from those developing countries, where the alteration of environmental condi-

tions through demographic, social and economic development create serious hazards to the ecosystem. For example Sahel, Egypt, Nepal, Brazil;

- those education and training centres in developing countries co-operating with education and training institutions in the First and Second Worlds which specialise in Third World development problems.

In addition existing fellowship programmes should be scrutinised for their consistency with the above mentioned principles and their orientation to the manpower requirements of environmentally sound development planning.

In general all those activities which are expected to have considerable multiplier effects should be prioritised. This is the only possibility of coping with the enormous demand for environmental management in developing countries, within the given time and fund restrictions.

For a number of reasons it is difficult to formulate distinct priorities for immediate action in this field. Obviously, possible starting points are everywhere. Given the extent of the demand for environmental education and training and the time pressure to act, those recommendations which procure the greatest political and consequently the most financial support should have priority. Such a determination requires a knowledge of the internal and informal decision making process of development institutions.

In the short run, very pragmatic efforts seem to have a greater chance of contributing to better environmental education and training in and for developing countries rather than comprehensive efforts of inter-organisational co-ordination and programming.

Not all recommendations demand additional finance. In many instances a reformulation of internal project priorities, a skillful alteration of traditional project performance procedures or a more satisfactory incorporation of the environmental dimension into on-going development projects will suffice.

Despite the remarks made above, the recommendations which are themselves a narrow selection of possible policy actions are subjectively grouped below according to their relative internal priority.

Highest priority should be given to the following recommendations:

- Dissemination of environmental information to high level politicians and policy advisors from developing countries;
- Establishment of a Fund for model programmes in environmental education and training and the support of selected training centres in developing countries;
- Establishing an EC-programme of inter-university co-operation in environmental education, training and research;
- Conferences for the dissemination of environmental information aspects to specific professional target groups (e.g. consulting firms, national trusts, university chancellors, directors of training institutes);

- In-service training for project administrators in international development institutions;
- Training of environmental experts for project identification and appraisal missions;
- Substantial activities for the preparation of future action programmes.

Recommendations of a high priority are:

- Dissemination of UNESCO-experiences, materials, and achievements in the field of environmental education and training;
- Establishment of a programme for the training of trainers of district development officers in developing countries;
- Establishment of regional information centres on environmental education and training;
- Launching the edition of a media series 'training for a better environment in developing countries';
- Incorporation of environmental training components into development projects;
- Creation of regional networks of environmental education and training professionals;
- Launching a training programme for teachers and journalists from developing countries;
- Advice to national governments in developing countries for the adaption of career regulations for government administration and services.

Medium priority should be assigned to:

- Dissemination of the recommendations of the Tbilisi Conference on environmental education;
- Establishing a special programme for junior environmental experts in development organisations;
- Encouragement for the creation of National Trusts in developing countries;
- The training and installation of environmental ombudsmen in developing countries;
- Creation of fellowship programmes for environmental planners from developing countries;
- Promotion of an environmental competition for professionals residing in ACP states.

The details of these recommendations are given in the main text of the study.

In order to operationalise these recommendations an intimate knowledge of the internal, formal and informal decision-making channels and attitudes and policy opinions of the appropriate organisation will be indispensable. A knowledge of which is usually outside the realms of a consultant's mandate. It is evident, therefore, that the recommendations will have to be further discussed with those who may be commissioned with their possible implementation, should such proposals be accepted.

All recommendations for policy action require further internal consideration for the selection of the best possible means of implementation, the division of internal responsibilities and identification of the indispensable steps for obtaining the necessary policy decisions.

3.9 Conclusion

The overall message of this study and its recommendations for action is the quest for continuous internal monitoring to which extent environmental considerations and training components are incorporated into 'routine work'.

At all stages of project identification, negotiation, performance and evaluation it is necessary to incorporate the 'environmental dimension'. The environmental awareness of key personnel can be a decisive factor in encouraging staff to introduce environmental training components whenever feasible. It is irrelevant as to whether 'development from below' or 'development from above' principles guide institutional policies. More particularly, environmental education and training must primarily be given to the opinion leaders, the decision-makers and the multipliers acting in or dealing with economic development in developing countries. Only this will guarantee that the necessary grass-root level activities for protecting the environment acquire the necessary political and financial support from above.

In drawing up future plans, programmes and budgets, the environmental aspects of development and the education and training of the required manpower should not be considered to be a sophisticated addendum, which can be disregarded under times of financial constraint. Environmental training is an indispensable precondition to further environmentally sound economic development.



Somewhere in
the Southern Hemisphere ...

"... we should concentrate our efforts
on the intensive use of our capital,
so that our people may benefit from the
fruits of technological development and,
leave the stigma of underdevelopment
behind us ..."

Bibliography

The topical nature of this study has precluded the existence of an extensive reserve of literature from which to draw. Consequently the acquisition of information necessitated a laborious search in a variety of periodicals. The assembly of widely dispersed and often inaccessible sources compelled many personal requests from organisations and institutions and even private meetings with relevant individuals.

This selected bibliography makes no pretensions of completeness. Merely, it seeks to give an indication of the factors which have been considered in this study, and to document sources related to this discipline so that points of specific interest may be readily pursued, by reference to the original or, to a more detailed text. Finally, it is hoped that this list of references will serve as a basis for, and will facilitate, further research in this area.

For the convenience of the reader, the sources used in this study have been divided into six broad categories: 1.General 2.Environment and development 3.Context 4.Goals and objectives 5.Programmes and courses 6.Policies of organisations.

The first category refers to fundamental sources which detail recent political options on environmental matters debated at international platforms. These contributions introduce current environmental considerations, and emphasise the conservation, protection and rational utilisation of resources in the natural and man-made environments. These sources also define the professional role of the environmental scientist, and outline general approaches to environmental education and training.

The second group of references elaborate the environmental dimension within the context of the development process; documenting the consequential environment related problems of the Third World development process. They also expound details of environmentally sound development planning.

The third category groups publications which illustrate specific issues of environmental education and training. Teaching and training theories and methods in and for developing countries are also examined.

Contributions related to goals and objectives detail the new directions of environmental education and training relating to developing countries. They offer an insight into the characteristics of the programmes and give information in specific education and training courses. Of particular significance are the reports on the recent international and regional workshops undertaken in association with international organisations.

The documentation of programmes and courses in this bibliography is by no means comprehensive. The material cited does, however, serve as an indication of the wide variety of existing and proposed programmes and courses.

The final classification of the bibliography acquaints the reader with the policies, aims and activities of the international development banks, regional and international organisations, and other relevant institutions. These sources particularise the proceedings and records of essential meetings and conferences pertaining to environmental education and training.

Selected Bibliography

1. General

- ABOUGHANEM, A. (1982) 'Development, the Dynamics of Employment and Training.' The Courier, Nos 73, 59-63.
- AFRICAN-CARIBBEAN-PACIFIC-EUROPEAN-COMMUNITY (1979) Lomé II Dossier. (Reprinted from a Special Issue of 'The Courier', ACP-EEC No. 58)
- BATISSE, M. (1980) 'Of Mammoths and Men: Conservation for Human Survival.' The Courier, 4-9.
- BATISSE, M. (1982) 'Stockholm Ten Years Later.' Nature and Resources, 18 (1), 3-4.
- BOYDEN, S. (1979) An Integrative Ecological Approach to the study of Human Settlements, (MAB Technical Notes 12) Unesco, Paris.
- ENGELMANN, R. J. (1981) 'Incorporating Environmental Considerations into Planning.' Environmental Conservation, 8(2), 91-95.
- GOUR-TANGUAY, R. (Ed) (1977) Environmental Policies in Developing Countries, Erich Schmidt Verlag, Berlin.
- HALL, P. (1974) Urban and Regional Planning, Penguin, Harmondsworth.
- HARARI, D. and GARCIA-BOUZIN, J. (1982) Social Conflict and Development, Development Centre Studies, OECD, Paris.
- HOLDGATE, M. W. (1982) 'The Environmental Information Needs of the Decision Maker.' Nature and Resources, 18(1), 5-10.
- LEVIN, A. L. (1977) Protecting the Human Environment: Procedures and Principles for Preventing and Resolving International Controversies, United Nations Institute for Training and Research, New York.
- MURELIUS, O. (1981) An Institutional Approach to Project Analysis in Developing Countries, Development Centre Studies, OECD, Paris.
- OECD (1982) OECD Economic Outlook, Paris.
- PTRC (1979) Urban and Regional Planning in Developing Countries, Summer Annual Meeting, University of Warwick.
- SANDBROOK, J. R. (Ed) (1982) Earth's Survival: A Conservation and Development Programme for the U.K. (Report No. 6 The U.K.'s Overseas Environmental Policy Volume 1) (Volume II Appendices) London.
- SPIEGEL, H. B. C. (1976) United Nations Environment Programme Level One Overview. General Development of Human Settlements. (Draft Discussion) Kenya Institute of Administration.
- TOLBA, M. K. (1980) Development Without Destruction-Evolving Environmental Perceptions, Tyncoo International, Dublin.
- UHLIG, C. (1982) 'Umweltschutz in Entwicklungsländern als Wirtschaftspolitisches Entscheidungsproblem.' Paper presented at INFU-Workshop, November 1982, Dortmund.
- UNITED NATIONS (1979) 'Education and Training.' Habitat International, 4(1/2), Oxford, New York.
- UNEP (1977) 'Human Settlements and Habitat: Review of the Priority Subject Area.' Report Number 1 of the Executive Director, New York.
- UNEP (1981) Report of the Governing Council on the Work of its Ninth Session, New York.
- UNEP (1981) Report of the Governing Council (Session of a Special Character and Tenth Session), New York.

BEST COPY AVAILABLE

- UNEP (1982) Life-Styles, Environment and Development: A European Perspective. (UNEP Reports and Proceedings Series 4, Ljubljana, Yugoslavia, December 1979) Nairobi, Kenya.
- UNEP (1982) 'The Environment- Ten Years On, 1972-1982.' Unitera, No:2.
- UNEP (1982) The World Environment 1972-1982, Tycooly International, Dublin.
- UNESCO (1975) The Sahel: Ecological Approaches to Land Use, (MAB Technical Notes 1) Unesco, Paris.
- UNESCO (1982) Man in Ecosystems: Epistemological Perspectives Cases and Practices. (International Social Science Journal, 93)
- UNESCO (1982) 'The Environment and Natural Resources a Six -Year Plan.' Nature and Resources, 18(4), 18-24.
- UNICEF (1982) Social Planning with the Urban Poor: New Government Strategies; Assignment Children, Geneva.
- UNITED NATIONS ECONOMIC and SOCIAL COUNCIL (1982) Spatial Planning Within the Framework of the Monrovia Strategy for the Economic Development of Africa.
- WEISS, D. (1974) Infrastrukturplanung-Ziele, Kriterien und Bewertung von Alternativen, Berlin.
- WHYTE, A.V.T. (1977) Guidelines for Field Studies in Environmental Perception, (MAB Technical Notes 5) Unesco, Paris.
- WORLD STRATEGY (1980) 'Against the Grain.' The Courier, May 1980, 10-14.
- WORLD BANK (1982) 'The Stockholm Conference Revisited.' Report, July-August.

2. Environment and development

- BENITEZ, N.A. and REGUERA, M.E. (1979) La Urbanización Rural: Una Solución al Crecimiento Desproporcionado de las Ciudades. Experiencia de Cuba en el Desarrollo de los Asentamientos Humanos, Unesco.
- BLAIKIE, M.P. et al (1979) The Struggle for Basic Needs In Nepal, Development Centre Studies, OECD, Paris.
- CANTER, L.W. (1977) Environmental Impact Assessment, McGraw Hill, New York.
- CASTRI, F. di, (1980) 'The Human Touch.' The Courier, May 1980, 20-24.
- CASSEN, R. and WOLFSON, M. (Eds) (1978) Planning for Growing Populations, Development Centre Studies, OECD, Paris.
- DWORKIN, D.M. (Ed) (1974) 'Environment and Development.' Collected Papers, Summary Reports and Recommendations, SCOPE/UNEP Symposium on Environmental Sciences in Developing Countries, Nairobi.
- GALTUNG, J. (1979) 'Development, Environment and Technology - Towards a Technology of Self Reliance.' United Nations Conference on Trade and Development, Geneva, New York.
- KINTZ, D. (1981) La Perception de leur Environnement pour les Populations Sahéliennes. Une Etude de cas: Sambo Ni'I, Haute-Volta. (Etablissements Humains et Environnement Socio-culturel, 24) (MAB Project 13) Unesco, Paris.
- KRUSE, H. (1974) 'Development, Environment: A Political Science Approach.' American Behavioural Scientist, 17(5), 676-689.

- LEE-SMITH, D. (1978) Eco-System Approach to Human Settlements Planning, United Nations Environmental Programme.
- MILES, S. (1979) Eco-development and Third World Urban Regions: A Prospective for International Development Co-operation Policy, Ottawa.
- OECD (1980) Environment Policies for the 1980s, OECD, Paris.
- OECD GENERAL REPORT (1980) The Impact of Tourism on the Environment, OECD, Paris.
- OECD (1983) Hazardous Waste 'Problem' Sites, (Report of an Expert Seminar) OECD, Paris.
- REDDY, A.K.N. (1979) Technology, Development and Environment: A Re-appraisal, United Nations Environment Programme, Nairobi.
- UNITED NATIONS (1972) 'Development and Environment.' Report and Working Papers of a Panel of Experts Convened by the Secretary General of the United Nations Conference on the Human Environment, Founex 1971, The Hague.
- UNEP (1981) 'Environment and Development in Africa.' A Study Prepared for UNEP by Environmental Action in the Third World, Pergamon Press, New York.
- UNESCO (1981) Iles Mirreuses de la Méditerranée: Etudes Interdisciplinaires de l'Habitat Humain dans les Ecosystèmes Insulaires. (Etablissements Humains et Environnement Socio-culturel, 27) (MAB Project 7) Unesco, Paris.
- UNESCO (1981) Planning Methods and the Human Environment Socio-Economic Studies 4, Paris.
- WORLD BANK (1979) Environment and Development, Washington, D.C.

3. Context

- APPLEYARD, D. (1979) 'The Environment as a Social Symbol: Within a Theory of Environmental Action and Perception.' Journal of the American Planning Association, 45(1), 143-153.
- CENTRE FOR EDUCATIONAL RESEARCH AND INNOVATION (1978) Innovation in In-Service Education and Training of Teachers, OECD, Paris.
- CENTRE FOR EDUCATION RESEARCH AND INNOVATION (1982) The University and the Community: The Problems of Changing Relationships, OECD, Paris.
- CLARK, M. (1978) 'Environmental Impact Assessment an Ideology for Europe.' Town and Country Planning, 46(10), 395-399.
- THE COURIER (1982) 'Education and Training.' The Courier, No:73.
- DANSEUREAU, P. (1978) 'An Ecological Grading of Human Settlements.' Geoforum, 9, 161-210.
- DEE, N. et al. (1975) 'Designing to Meet Human Needs.' Ergonomics, 40(240), 316-322.
- DWORKIN, D.M. (1974) 'Environmental Sciences for Developing Countries.' Summary Reports and Recommendations SCOPE/ UNEP Symposium on Environmental Sciences in Developing Countries, Nairobi 1974, SCOPE REPORT 4, Indianapolis.
- EWALD, W.R., Jr (1976) 'ACCESS: Alternative Comprehensive Community Environmental Study System.' Ergonomics, 41 (246), 294-299.
- KORILLOS, T.S. (1980) 'Sociology of Architecture: An Emerging Perspective.' Ergonomics, 47(285), 470-475.

- LEVI, L. and ANDERSON, L. (1975) 'Population, Environment and Quality of Life.' Ekistics, 40(236), 12-19.
- McGLOUGHLIN, J.B. (1973) 'Theories and Techniques of Spatial and Environmental Planning.' Informationen zur Orts-Regional-Landesplanung, DISP No.31, 25-33.
- NEWMAN, P.W.G. (1975) 'An Ecological Model for City Structure and Development.' Ekistics, 40(239), 258-265.
- OECD (1977) Education and Regional Development (General Report Volume 1) OECD, Paris.
- OECD EDUCATION COMMITTEE (1979) Future Educational Policies, (Report of the Meeting of the OECD Education Committee at Ministerial Level, October 1978) OECD, Paris.
- REGENHARAT, E.M. (1982) 'Vocational Training for Third World Teachers.' Development and Co-operation, No6.
- UNEP (1978) Review of the Area Environmental Education and Training, (Report of the Executive Director 1978).
- UNEP (1982) Summary Record of the Third Meeting of the Committee of International Development Institutions on the Environment, Brussels, April 1982, Paris.
- UNEP-UNESCO (1982) 'Intergovernmental Organisations at Work for Environmental Education.' Connect, 7(4), 4-6.
- UNEP-UNESCO (1982) 'Environmental Education at UNEP's Tenth Anniversary Conference' Connect, 7(2).
- UNEP-UNESCO (1982) 'International Environmental Education Since Stockholm and Tbilisi.' Connect, 7(1).
- UNESCO (1977) Trends in Environmental Education, Unesco, Paris.
- UNESCO (1981) Environmental Education in Asia and the Pacific, (Bulletin of the Unesco Regional Office for Education in Asia and the Pacific) Unesco, Bangkok.

4. Goals and objectives

- BARRETT, G.W. and PUCHY, C.A. (1977) 'Environmental Science: A New Direction in Environmental Studies.' International Journal of Environmental Studies, 10, 157-160.
- BELL, G. and PACKARD, R. (1976) 'Human Settlements Education: A Survey of Programs in Less Developed Countries.' Ekistics, 41(246), 263-270.
- BISWAS, M.R. and BISWAS, A.K. (1982) 'Major Requirements for Environmental Education.' Environmental Conservation, 9(2), 157-160.
- DIX, G. (1980) 'Planning Education for Developing Countries: A Review and Some Proposals for a Policy.' Ekistics, 47(285), 396-403.
- DOMICEL, J.S. and LEA, J.P. (1976) 'An Educational Approach to Urban Planning and Development.' Ekistics, 44(246), 277-280.
- ECO, U. et al. (1981) Environmental Information: A Methodological Proposal, (Human Settlements and Socio-Cultural Environment, 23) Paris.
- EKISTICS (1976) 'A Holistic Perspective for Environmental Education.' Ekistics, 42(246), 252-256.
- EKISTICS (1976) 'Environmental Based Environmental Education.' Ekistics, 42(246), 257-262.
- FRIEDMAN, O. (1977) 'Systems Thinking and Transdisciplinary Approaches to Environmental Education.' Conference of the International Association for Urban and Regional Research and Education, UNESCO, Paris.

- FYSON, A. (1976) 'Guidelines for Urban Studies.' Town and Country Planning, 44(5), 274-276.
- GIHRING, T.A. (1976) 'Planning Education in Nigeria.' Ekistics, 4(246), 271-276.
- HABITAT (1979) 'Training for Improving Low-Income Settlements.' Report of the Ad-hoc Meeting of Experts on a Training Programme for the Improvement of Slums and Squatter Areas in Urban and Rural Communities, Enschede, August 1978, Nairobi, Kenya.
- HABITAT (1982) Global Survey on Human Settlements Training Questionnaire, Nairobi.
- HABITAT (1982) Terms of Reference for the Global Survey on Human Settlements Training and the Preparation of the Theme Paper on Training to be Presented to the Commission on Human Settlements at Its Seventh Session, Nairobi.
- HABITAT (1982) Training Theme Paper, Nairobi.
- HAYWOOD, I. (1980) 'Environmental Education in the Islamic World: A Tri-Partite Approach.' Ekistics, 47(285), 432-435.
- HEALEY, P. (1980) 'The Development of Planning Education in the UK and Its Relevance as a Model for Other Countries.' Ekistics, 47(285), 416-420.
- HUNGERFORD, H.R. and PEYTON, R.B. (1980) Strategies for Developing an Environmental Education Curriculum: A Discussion Guide for Unesco Training Workshops on Environmental Education, 1980, Unesco, Paris.
- IATRIDIS, D.S. (1976) 'Education for Planners of Human Settlements: A Retrospective View of the Graduate School of Ekistics.' Ekistics, 41(246), 281-283.
- MONBALLYU, M. (1980) 'WES Regional Planning Course for Indonesian Officials.' Ekistics, 47(285), 441-442.
- ODHIAMBO, D. (1979) 'Interdisciplinarity as an Approach to Environmental Education.' Paper presented at the, National Symposium on Environmental Education January 1979, National Environment Secretariat, Kenya.
- PERKS, W.T. (1980) 'Planning Education One Way or Another.' Ekistics, 47(285), 421-427.
- RISSOM, H.W. (Ed) (1981) Environmental Education in Europe, Final Report of the Regional Workshop, Essen 1980, German Commission for Unesco, Essen.
- RODWIN, L. (1980) 'Training for Urban Studies in Third World Countries.' Ekistics, 47(285), 404-409.
- SECRÉTARIAT DES MISSIONS D'URBANISME ET D'HABITAT (1977) Planning and Housing Information, Paris.
- SERAGELDIN, I. (1980) 'Thoughts for the Education of Muslim Planners of the Future.' Ekistics, 47(285), 428-432.
- SLATER, F. and SPICER, B. (1979) 'Towards an Expanded Model of Curriculum Development and Diffusion in Education.' Geoforum, 10, 243-249.
- STAPP, W.B. and CROWFOOT, J.E. (1980) Suggestions for Developing a National Strategy for Environmental Education a Planning and Management Process. A Discussion Guide for Unesco Training Workshops on Environmental Education, Unesco, Paris.
- SUBBAKRISHNIAH, A. (1976) 'Education and Training for Human Settlements in the ECA and ECWA Regions.' UNEP Expert Group Meeting on Human Settlements Technology ECA and ECWA Regions, Nairobi, February 1976.
- TETTEH, A. (1980) 'Third World Experience of Education for Planning: Africa.' Ekistics, 47 (285), 436-440.

BEST COPY AVAILABLE

- UNITED NATIONS (1972) 'Issues of Training and Research in Regional Development.' Report of the Interregional Workshop for Directors of Countries Engaged in Research and Training in Regional Development, Nagoya.
- UNEP-UNESCO (1982) 'Engineers ,EE and Stockholm.' Connect, 7(1).
- UNESCO (1975) International Workshop on Environmental Education, Belgrade 1975, (The International Environmental Education Programme, Unesco-Unep) Paris.
- UNESCO (1976) Regional Meeting of Experts on Environmental Education in Asia, Bangkok 1976, (International Environmental Education Programme Unesco-Unep), Paris.
- UNESCO (1977) Regional Meeting of Experts on Environmental Education in Europe, Helsinki 1977, (International Environmental Education Programme Unesco-Unep) Paris.
- UNESCO (1978) Regional Training Workshop on Environmental Education in Africa, Dakar 1978,
- UNESCO (1983) Human Rights in Urban Areas, Paris.
- UNESCO-UNEP (1977) Education and the Challenge of Environmental Problems, (Intergovernmental Conference on Environmental Education , Tbilisi 1977) Unesco, Paris.
- UNESCO-UNEP (1977) International Conference on Environmental Education ,Tbilisi 1977: Final Report, Unesco, Paris.
- UNESCO-UNEP (1977) Needs and Priorities in Environmental Education: An International Survey, (Intergovernmental Conference on Environmental Education, Tbilisi 1977) Unesco, Paris.
- UNESCO-UNEP (1977) The United Nations Environment Programme and its Contribution to the Development of Environmental Education and Training, (Intergovernmental Conference on Environmental Education, Tbilisi 1977), Paris.
- UNESCO-UNEP (1980) Environmental Education In the Light of the Tbilisi Conference, (Education on the Move), Paris.
- UNESCO-UNEP (1982) International Expert Meeting on Progress and Trends In Environmental Education since the Tbilisi Conference: Final Report, Unesco, Paris.
- UNESCO-UNEP (1982) 'World Problems and Unesco's Medium-Term Plan (1984-1989): Education and the Environment.' Connect, 8(4), 1-3.
- UNESCO-UNEP (1982) 'Progress, Trends and Prospects In Environmental Education.' Connect, 7(3).
- UNIVERSITY OF NAIROBI (1977) Proposed Programmes In Environmental Studies, Nairobi.
- ZETTER, R. (1980) 'Imported or Indigenous Planning Education: Some Observations on the Needs of Developing Countries.' Ekistics, 47(285), 410-415.
- ZETTER, R. (1981) 'Imported or Indigenous Planning Education? Some Observations on the Needs of Developing Countries.' Third World Planning Review, 3(1) ,21-42.

BEST COPY AVAILABLE

5. Programmes and courses

- AGENCY FRANCAISE POUR L'AMANAGEMENT ET LE DEVELOPPEMENT A L'ETRANGER (1982) Course Information, Paris.
- ASIAN INSTITUTE OF TECHNOLOGY (1976) Catalog for 1976.
- BOUWCENTRUM INTERNATIONAL EDUCATION (1980) Bouwcentrum International Education in 1980, Netherlands.
- BOUWCENTRUM INTERNATIONAL EDUCATION (1982) Institute for Housing Studies BIE, Netherlands.
- THE COURIER (1982) 'EDF Financed Study and Training Course Grants Programmes.' The Courier, 73.
- DIX, G. (1980) 'Two Conferences on Planning Education: Liverpool 1977 and Tunis 1980.' Eksistecs, 47(265), 442-449.
- ERIPLAN (1978) Directory, Brussels.
- FYSON, A. (1977) 'Tips for Tbilisi.' Town and Country Planning, 45(9), 408-411.
- GOTTSTEIN, K. (Ed) (1979) Brief Descriptions of Non-governmental Institutions in the Federal Republic of Germany Co-operating with Developing Countries in Science and Technology. Max Planck Institute on the Preconditions of Human Life in the Modern World, in Conjunction with the Institute for Scientific Co-operation, Tübingen.
- HABITAT (1980) Training Institutions in the Field of Human Settlements, Directory 5, Nairobi.
- HABITAT (1982) 'Research: The Training of Special Target Groups.' Habitat News, 4(1).
- HABITAT (1982) 'Training: Workshop on Teaching Materials and Training Programmes in Slum and Squatter Settlements, East Africa.' Habitat News, 4(1).
- ISOCARP (1981) 'Conference on Planning Education: A Report.' Third World Planning Review, 3(1), 94-97.
- LITTLE, A.D. MANAGEMENT EDUCATION INSTITUTE INC. (1982) Information on Courses and Seminars, Cambridge, Mass.
- LOB, R.E. (Ed) (1981) Regional Workshop on Environmental Education in Europe, Essen 1980, National Reports, Essen.
- NETHERLANDS UNIVERSITIES FOUNDATION FOR INTERNATIONAL CO-OPERATION (1982) Basic Data on International Courses Offered in the Netherlands 1983-84, The Hague.
- REHOVOT SETTLEMENT STUDY CENTRE (1981) Settlement Study Centre, Rehovot, Israel.
- UNEP-UNESCO (1982) International Post-Graduate Training Course on Ecosystem Management at the Technical University of Dresden, Dresden, Democratic Republic of Germany.
- UNESCO-UNEP (1977) Human Settlements Managers Training Programme: Handbook for the Organisation and Design of Courses, Volume 1, Unesco, Paris.
- UNESCO-UNEP (1977) Human Settlement Managers Training Programme: Selected Reading Materials, Volume 2, Unesco, Paris.
- UNESCO (1981) International Directory of Institutions Active in the Field of Environmental Education, Paris.
- UNESCO (1981) Interprétation des Informations Télévisées sur l'Environnement, (Etablissements Humains et Environnement Socio-culturel), 18 Unesco, Paris.
- UNESCO (1981) Urban Housing and Community Development Course, University of Nairobi.

BEST COPY AVAILABLE

UNIVERSITY OF HAWAII (1977) Pacific Urban Studies and Regional Planning Programmes Courses in Urban and Regional Planning and Related Programs, Hawaii.

WHEELER, J.K. (1978) 'Tablets of Tbilisi.' Town and Country Planning, 46(4), 231-234.

WORLD BANK (1982) Economic Development Institute General Information, Washington, DC.

YORK UNIVERSITY (1974) Faculty of Environmental Studies Handbook, York.

6. Policies of organisations

ASIAN DEVELOPMENT BANK (1983) Letter from Asian Development Bank, Manila.

BOOTE, R.A. (1981) 'An Emerging Human Ecology.' Town Planning Review, 52, 316-324.

CENTRE FOR EDUCATIONAL RESEARCH AND INNOVATION (1982) In Service Education and Training of Teachers: A Condition for Educational Change.

CENTRE FOR INTERNATIONAL ENVIRONMENTAL INFORMATION (1980) Environmental Training in Developing Countries.

COUNCIL ON ENVIRONMENTAL QUALITY (1975) 'The United Nations Environmental Programme.' Ekistics, 40(239), 298-302.

FYSON, A. (1978) 'International Development in the NGO Sector.' Town and Country Planning, 46(3), 179-181.

HALL, D. (1978) 'International Voluntary Effort in Planning and the Environment.' Town and Country Planning, 46 (7/8), 345-348.

HORBERRY, J. and JOHNSON, B. (1981) Environmental Performance of Consulting Organisations in Development Aid, IIED, Washington.

INTERNATIONAL INSTITUTE FOR ENVIRONMENT AND DEVELOPMENT (1980) The European Development Fund and the Environment, London.

INSTITUTE FOR EUROPEAN ENVIRONMENTAL POLICY (1982) Annual Report, London.

INTER-AMERICAN DEVELOPMENT BANK (1983) Operational Manual of the Inter-American Development Bank, Washington.

INTER-AMERICAN DEVELOPMENT BANK (1983) Letter from the Inter-American Development Bank, Washington.

JOHNSON, B. and BLAKE, R.D. (1980) The Environment and Bilateral Development Aid, International Institute for Environment and Development, Washington.

MEAD, M. (1977) 'Human Settlements and the UN Environment Program: The Potential of Non-Governmental Organisations.' Ekistics, 44(262), 177-183.

OECD (1980) Environment Policies for 1980's, Paris.

OECD (1982) Economic and Ecological Interdependence: A Report on Selected Environment and Resource Issues, Paris.

OECD (1982) OECD at a Glance, Paris.

OECD (1983) Private Discussion at OECD, Paris.

REEDER, P.L. De (1978) Environmental Programmes of Intergovernmental Organisations, Kluwer B.V. Deventer.

STEPHENSON, L.J.K. (1979) 'Toward Spatial Understanding of Environmentally -Based Voluntary Groups.' Geoforum, 10, 195-201.

- SCHIPULLE, H. (1980) The European Community's Development Co-operation Policy, 1980. Reprinted from 'The Courier ACP-EEC' No. 69.
- SCHNEIDER, G. (1982) 'International Co-operation : The European Community's Environmental Policy.' Ekistics, 48(293), 165-167.
- UNITED NATIONS CHILDREN'S FUND (1982) The State of the World's Children, UNICEF, New York.
- UNITED NATIONS CHILDREN'S FUND (1975) 'The Child and the Environment.' UNICEF News, 83(1).
- UNITED NATIONS DEVELOPMENT PROGRAMME (1981) Letter from United Nations Development Programme, New York.
- UNEP (1982) The Environment Programme: Medium Term Plan 1982-1983, Nairobi.
- UNESCO (1977) Medium-Term Plan (1977-82), Unesco, Paris .
- UNESCO (1981) Approved Programme and Budget 1981-1983, Unesco, Paris.
- UNESCO (1982) Activities of the Unesco-Unep International Environmental Education Programme 1975-1982, (International Expert Meeting on Progress and Trends in Environmental Education since the Tbilisi Conference, Paris 1982) Unesco, Paris .
- UNESCO (1982) Draft Medium-Term Plan (1984-1989), (General Conference Fourth Extraordinary Session, Paris 1982) Paris.
- UNESCO (1982) Records of the General Conference : Resolutions (1), (Fourth Extraordinary Session, Paris 1982) Paris.
- WILSON, T.W. (1971) International Environmental Action - A Global Survey, Cambridge University Press, Cambridge, Mass.
- WORLD BANK (1978) Environmental Considerations for the Industrial Development Sector, Washington, D.C.
- WORLD BANK (1982) World Bank Annual Report 1982, Washington, D.C.
- WORLD BANK (1982) Environmental Requirements of the World Bank, Washington D.C.
- WORLD BANK (1982) IDA In Retrospect. The First Two Decades of the International Development Association, Oxford University Press, New York.
- WORLD BANK (1983) Letter from World Bank, Washington.
- WORLD HEALTH ORGANISATION (1979) 'Statement of the World Health Organisation.' International Symposium on Post-Graduate Engineering Education for Developing Countries, Paris.
- WORLD HEALTH ORGANISATION (1982) Basic Strategy Document on Human Resources Development, (International Drinking Water Supply and Sanitation Decade) Recommendations of the Task Force on Human Resources Development of the IDWSSD Steering Committee for Co-operative Action.
- WORLD HEALTH ORGANISATION (1983) Letter from World Health Organisation, Geneva.

BEST COPY AVAILABLE